

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Waste Management and Remediation Division
Waste and Underground Tank Management Bureau
Solid Waste Section

**Response to Public Comments Received for the
Proposed Septage Land Application Site – Eckert’s Patriot Pumps**

February 19, 2017

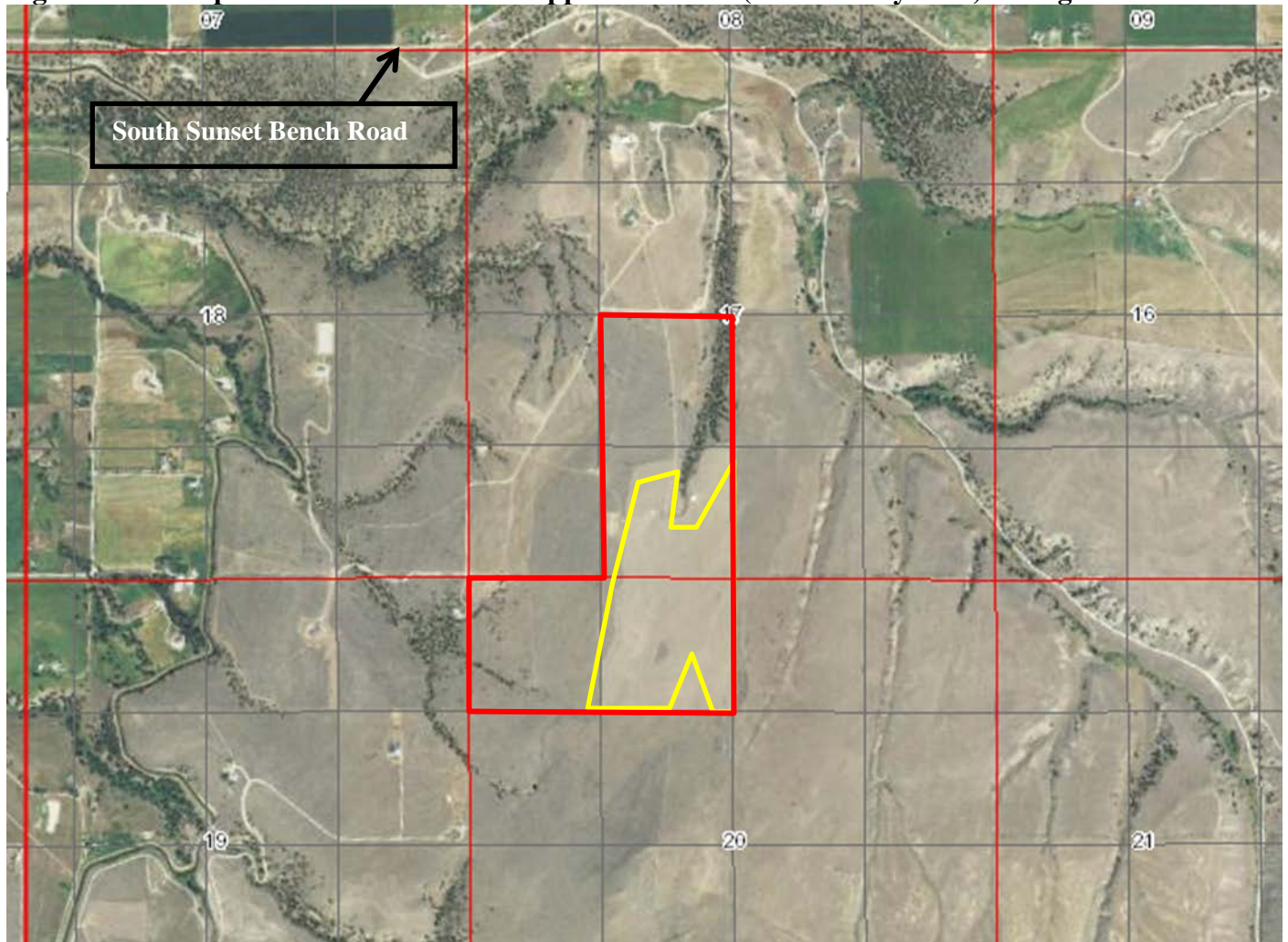
Mr. Conrad Eckert of Eckert’s Patriot Pumps (EPP) submitted an application for a new septage land application site in Ravalli County. EPP proposes to land apply septage and grease trap type wastes on the Jay Bugli property in Ravalli County. The parcel proposed for land application is located approximately 6¼ miles southeast of Stevensville in the E½SW¼ of section 17 and N½NW¼ of section 20, T. 8 N., R. 19 W. The property contains 180 acres, however, approximately 70 acres meet all regulations for septage land application (see Figure 1). The existing plowed field at the site was proposed and investigated for compliance. Operations must be confined to the area shown to satisfy the controls on slope. Land application will only be allowed by EPP personnel and will occur at this site on an “as-needed” basis when the ground is not frozen.

The Department of Environmental Quality (DEQ) published an Environmental Assessment (EA) of the proposal on November 18, 2016, and a 30-day public comment period was initiated. On December 23, 2016, the comment period was extended until January 6, 2017. DEQ received 14 written comments on the EA during the public comment period for the proposed land application site. Comments received that are outside the context of the regulatory purview of the DEQ’s Septic Tank Pumper (STP) Program are not addressed here. Comments with similar or overlapping content that are within the scope of this proposed action are summarized and combined with the intent to provide an inclusive response to comparable issues. The content of DEQ’s response is limited to the context of the proposed license action - that is, whether or not the proposal meets the requirements of the regulations. If the proposal meets the minimum requirements of the applicable laws and rules, the site must be approved by DEQ’s STP Program. However, DEQ may impose additional license conditions or restrictions as necessary to protect human health and the environment.

DEQ’s responses to the comments received during the public comment period are organized as follows:

- I. Site Selection Criteria – setbacks, slopes, and soils
- II. Traffic Impacts
- III. Surface Water Impacts
- IV. Ground Water Impacts
- V. Wildlife Impacts
- VI. Environmental Assessment
- VII. Site Operation and Management
- VIII. Conclusions and Recommendations

Figure 1: Aerial photo of the 70-acre land application area (outlined in yellow) at Bugli site



Source: NRIS Topofinder

I. Site Selection Criteria – setbacks, slopes, and soils

I.1 Comment:

Several commenters felt that the site was located too close to local creeks, adjacent residential development, an occupied onsite trailer, and is too close to properties that could be developed for residential use in the future.

I.1 Response:

Comment noted. Land application sites must meet specific minimum criteria in order for a site to be considered for land application. In accordance with the Administrative Rules of Montana (ARM) Section 17.50.809, the following restrictions apply:

- *Pumpings may not be applied to land within 500 feet of any occupied or inhabitable building;*
- *Pumpings may not be applied to land within 150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands;*
- *Pumpings may not be applied within 100 feet of any state, federal, county or city maintained highway or road;*

- Pumpings may not be applied to land within 100 feet of any drinking water source;
- Pumpings may not be applied where ponding or runoff of septage is likely to occur;
- Pumpings may not be applied to land with slopes greater than 6%, or on slopes greater than 3% when the ground is frozen or snow covered;
- Pumpings may not be applied to land where less than six feet separate the land surface from seasonally high ground water;
- Pumpings may not be applied at a rate greater than the agronomic rate of the site for nitrogen on an annual basis; and,
- Pumpings may not be applied to land where a threatened or endangered species or its designated critical habitat is likely to be adversely affected.

The land application site and operation complies with the above active area restrictions as follows:

- *The land application area is located more than 500-feet away from an occupied or inhabitable building on or adjacent to the property;*
- *The setback from ephemeral drainages are more than 150-feet away from the proposed land application site;*
- *The nearest county road is located several hundred feet north of the proposed land application site;*
- *There is no drinking water source located within 100 feet of the proposed land application site;*
- *Land application is prohibited on frozen ground;*
- *Pumpings will be land applied using a splash plate in a manner that prevents ponding or runoff of septage during discharge;*
- *Boundaries of land application units will be staked to ensure that land application is limited to areas that do not exceed 6% slopes;*
- *Ground water is confined to layers at depths greater than 6-feet below land surface;*
- *Septage will be applied at an Annual Application Rate (AAR) not to exceed 28,846 gallons per acre per year;*
- *The active land application area will be rotated yearly between two defined units for revegetation;*
and,
- *There were no threatened or endangered species or critical habitats identified at the site.*

The proposed Bugli land application site meets these minimum requirements. When or if development occurs on adjacent properties, the existing application area setbacks will be reviewed to ensure that any new requirements are met prior to further operations.

1.2 Comment:

Two commenters noted that a trailer house exists close to the southwest corner of the property.

1.2 Response:

Comment noted. The distance between the application area identified in the EA and the residence in question far exceeds the 500-foot setback requirement.

I.3 Comment:

One commenter questioned what the term “septage” actually referred to and believed that the State should inform the public about the specific pollutants in the waste that will be applied to the Bugli property.

I.3 Response:

Comment noted. Section 75-10-1201(7), Montana Code Annotated (MCA) defines "septage" as liquid or solid material removed from a septic tank, cesspool, portable toilet, or similar treatment works that receives only domestic sewage. Septage is not considered raw sewage because it has undergone primary treatment by the bacteria that live in the septic tank. This primary treatment process is similar to the digestion that takes place at a waste water treatment facility, but at a much smaller scale. Raw sewage is the sewage from homes that is piped to a local wastewater treatment plant.

The regulations are protective of public health and the environment because they establish minimum requirements for operations at the land application site. Land application sites must meet specific criteria prior to being approved. These include minimum setbacks from seasonally high ground water, any occupied or inhabitable buildings, drinking water source, any state surface water (including ephemeral or intermittent drainages and wetland), and any state, federal, county, or city maintained highway or road. Restrictions include, but are not limited to: crop harvesting, animal grazing, and public access restrictions to the application site. EPP is not proposing to land apply portable toilet wastes at the site, but only grease trap waste and septage from septic tanks.

The following table provides a comparison of the chemical and physical characteristics of septage versus sewage sludge.

Table 1: Chemical and Physical Characteristics of Domestic Septage vs. Sewage Sludge

Parameter	Concentration mg/kg (dry weight basis)		
	Domestic Septage ¹	Sewage Sludge ²	Pollutant Concentration Limit (PCL) ³
Arsenic	4	10	41
Cadmium	3	7	39
Chromium	14	120	1200
Copper	140	740	1500
Lead	35	130	300
Mercury	0.15	5	17
Molybdenum	---	4	8
Nickel	15	43	420
Selenium	2	5	100
Zinc	290	1200	2800
Nitrogen as N	2%	2 – 7%	---
Phosphorous as P	< 1%	1 – 3%	---
pH	6 - 7	5 - 8	---
Grease	6 - 12%	5 - 10%	---
Biochemical Oxygen Demand (BOD ₅)	6,480 mg/l	2,000 mg/l ⁴	---
Total Solids (as normally spread)	3.40%	3 – 35%	---

Notes:

- 1: Domestic septage characteristics are from Field Guide to Septage Treatment and Disposal.
- 2: Sewage sludge characteristics are from the National Sewage Sludge Survey, and the Wastewater Engineering: Treatment/Disposal/Reuse.
- 3: Pollutant Concentration Limits are from Table 3 of the Standards for the Use or Disposal of Sewage Sludge (40 CFR Part 503). These regulatory limits apply to sewage sludge, not domestic septage, but are used for comparison purposes here. Sewage sludges meeting these limits can be used without tracking the cumulative amount of metals applied to the land.
- 4: BOD₅ varies greatly among sewage sludges.

1.4 Comment:

One commenter provided a digital slope and drainage vector analyses of the site showing the topographic variations in the area of concern where the EA indicated that feature setbacks are met.

1.4 Response:

Comment noted. DEQ agrees that areas limited to the plowed field could ensure compliance of the EPP operations with all septage land application slope requirements, as shown in the comment. During the initial onsite inspection by DEQ, Mr. Eckert said that operations would be limited to the existing plowed field. Slopes on land application sites are not allowed to exceed 6%, or 3% for frozen ground. DEQ determined that the proposed slopes were acceptable for the areas indicated by Mr. Eckert for land application (based on visual inspection onsite with him during the field investigation). Mr. Eckert has since decided against operation during periods of frozen ground. Based on these additional details, the general feature setback area previously identified in the EA (Figure 2.2) has been updated to only specify the area where all slopes are also less

than 6% (see Figure 1 attached). The boundaries of the land application areas used each year will be marked on site for inspection.

I.5 Comment:

A few commenters asked whether alternative sites exist in the eastern part of the Bitterroot Valley, or on State Lands.

I.5 Response:

Comment noted. At the present time, Montana has over 149 active land application sites, one of which is within Ravalli County. The pumper business is responsible for finding its own land application site. Some businesses have contacted State Agencies, gone through the site approval process, and land apply on land managed by the State of Montana. However, it remains the responsibility of the applicant to secure a location and provide the information to the local, county, and state officials for approval. Information on a proposed site is first presented to the County Health Officer or their designated representative (County Sanitarian) for review and approval. Once a site is approved by the County, the application is forwarded to DEQ's STP Program. Sites that do not meet local requirements are typically denied at the local level. Sites that do not meet the minimum state requirements are denied at the state level. Approval for use of this site was provided by the Ravalli County Health Department before it was sent to the state for review and approval. This site meets all local and state requirements. While alternative sites may exist, DEQ's review was specific to the applicant's proposal.

II. Traffic Impacts

II.1 Comment:

Some commenters said that the additional truck dump traffic will be detrimental to the private road and will result in huge maintenance costs.

II.1 Response:

Comment noted. It is DEQ's understanding that Mr. Bugli and Mr. Eckert have agreed to develop a road maintenance agreement with the other residents who use the private road.

III. Surface Water Impacts

III.1 Comment:

Several commenters felt that the site will impact the nearby creeks and drainages especially during spring runoff from frozen ground.

III.1 Response:

Comment noted. Land application will not take place at the site after the ground is frozen. Septage land application during any other conditions that may cause runoff is strictly prohibited. Septage will only be applied on land surfaces where slopes are no greater than 6% (Figure 1). In addition, the minimum setback from any state surface water body for land application is 150 feet, including the onsite ephemeral drainages. Finally, septage land application requires the use of a dispersive mechanism to ensure that pumpings are applied at a rate that prevents ponding

or runoff of septage during discharge. Therefore, based on the minimum setbacks, soil absorption, tillage, and these additional protections, it is very unlikely that septage would runoff from the approved application area and flow into drainages to contaminate any surface water body in proximity of the site. During routine inspections, any sign of runoff or application outside of the permitted areas would be noted as a violation. Violations require immediate correction by the pumper. Failure to prevent runoff can result in closure of a land application site. DEQ has determined that the site will be managed in a manner that prevents potential impacts to surface water.

III.2 Comment:

A few commenters believe that some type of surface water testing is necessary to ensure land application is not contaminating local surface waters.

III.2 Response:

Comment noted. The regulations were designed to ensure runoff from land application does not occur and would therefore not impact surface waters. Adherence to the procedures and established setbacks for land application should prevent runoff from occurring. Therefore, DEQ believes that surface water testing is not necessary. Failure to prevent runoff from the site, or evidence that application has occurred outside the permitted areas, would be noted as a violation. Violations require immediate correction and could include the collection and analysis of surface water samples to ensure surface water bodies have not been impacted by the land application activity.

III.3 Comment:

A few commenters were concerned about the possibility for nitrification of local waters at the site that could contaminate groundwater or adjacent streams. They also emphasized the downstream connection to the irrigation canal which could spread the potential impact on water quality over a broad area.

III.3 Response:

Comment noted. Septage application would be performed using a dispersive mechanism so that wastes are applied in a wide, thin layer. Spreading of the liquids during steady discharge would promote quick absorption into the loamy soil. This source of stored moisture and nutrients would later be released for uptake by the vegetation to enhance its growth and develop a dense root profile. As discussed in the EA, the annual application rate is limited to 28,846 gallons per acre per year for the grasses grown at the site. This yearly maximum volume is equal to the application of approximately 1.06 inches of liquid per acre, and is equivalent to the average precipitation received in the area during the month of September. Absorbed organics and pathogens in the septage are degraded by physical exposure to the sun and atmosphere, and biodegrade further as the subsurface microorganisms consume it for energy. What remains is essentially a dissolved nitrogen resource. These operational procedures and natural processes are enhanced by tillage and combine with the available storage capacity of the loamy soil layer for optimal conditions to protect surface water and capture nitrogen. Native vegetation would develop during alternating years to access the nitrogen stored in the soil during one year for growth the following year. Finally, there are no wetlands or permanent surface water bodies located on the proposed land application site, thus a permanent hydraulic connection to other

surface water features is not available in the area. All setback requirements would be maintained as required to disconnect the active land application area from the limited onsite drainage features and eliminate potential impacts.

IV. Ground Water Impacts

IV.1 Comment:

Several commenters expressed concerns that waste and/or chemical constituents contained in the septage will leach through the soil into the aquifers and contaminate the wells used for domestic water, especially in wells west and south of the site.

IV.1 Response:

Comment noted. Please see response III.3 where it is explained how the applied liquids and nitrogen are held in the soil for release to plants on a yearly cycle. Limiting septage land application to the equivalent of 1.06 inches of moisture per year prevents over-application to ensure that nitrogen would not be flushed through the soil profile. These operational procedures and natural processes are enhanced by tillage and combine with the available storage capacity of the loamy soil layer for optimal conditions to protect groundwater and capture nitrogen. Percolation of septage beyond the soil layer and into the subgrade would be eliminated by plant uptake during biennial periods of growth. Further, based on the available data from wells adjacent to the Bugli property, the groundwater beneath the site is found in porous zones greater than 20 feet deep and largely encapsulated within shaly mudstones. Therefore, because the land application operations and soil favor storage and plant capture, it is highly unlikely that any trace of vertical flow would migrate through the unsaturated impermeable subsurface for passage into the water table at depth.

IV.2 Comment:

Some commenters expressed a concern that the septage will contain pharmaceuticals that will be land applied.

IV.2 Response:

Comment noted. DEQ considers the potential volume of pharmaceuticals present in the septage proposed for application at this site to be small compared to the potential volume of pharmaceuticals already being released in the discharges from individual septic system. At the present time, there is no requirement for individual septic systems that discharge effluent to groundwater to test or treat for pharmaceuticals.

V. Wildlife Impacts

V.1 Comment:

A few commenters stated that the Montana Department of Fish, Wildlife & Parks (FWP) was not notified and was unaware of the proposal, especially since the EA was released on the week of Thanksgiving vacation. One commenter stated that other affected agencies were ignored.

V.1 Response:

Comment noted. DEQ sent copies of the EA to other agencies for comment, including the Ravalli County Sanitarian, Ravalli County Health Officer, Ravalli County Commissioners, Montana Department of Fish, Wildlife & Parks, and the Environmental Quality Council. Reports were obtained from Montana Natural Heritage Program and Montana Historical Society State Historic Preservation Office. DEQ believes that this list of agencies are the primary authorities concerned with the licensing proposal for septage land application.

V.2 Comment:

Several commenters expressed concerns about the impact to wildlife, species of concern (SOC), and special SOC that range on and migrate through the area. One commenter also noted that whitetail deer frequent the area of land application.

V.2 Response:

Comment noted. The residential development and expansion of roads into habitat areas and through existing migration routes do not appear to have had an adverse effect on wildlife in the area. DEQ believes that the proposed land use will not negatively impact wildlife populations. Grazing animals tend to avoid septage land application sites for a number of reasons – the presence of human scent and human activity, to name a few. In addition, based upon the volume proposed for land application, a maximum disturbance of 10.4 acres per year would accommodate land application of the total proposed volume of septage at the required annual application rate. There is adequate acreage of similar habitat available in the vicinity of the property to accommodate any species that may relocate because of land application activities. However, land application activities are similar to previous onsite farming activities where fields are tilled and planted and fertilizers are applied.

Septage will not be applied on frozen ground, so tillage will be completed by the end of each day of application. The pumpings will be applied in a manner that prevents over-application, ponding, and run-off, thereby minimizing the potential for contact or attraction prior to tillage within the six hour deadline. Tillage also minimizes the attraction to grease trap wastes.

The Montana Natural Heritage Program indicated the presence of 11 species of concern (SOC) within the entire township (36 square miles) surrounding the site. Of these SOC species listed in the EA, the Sagebrush Sparrow, Bobolink, and Clark's Nutcracker are those species that would most likely to possibly inhabit the dry grassland site on a temporary basis. However, the previous agricultural activity in the tilled field targeted for land application and the ongoing aircraft activity at the airstrip would discourage their residence. The special Bald Eagle is most likely to occupy areas near the Bitterroot River and its tributaries where there is an abundance of food.

The approval of a septage land application site that meets the minimum requirements of the regulations and which is operated in accordance with the regulations, would not cause harm to the wildlife and human population in the area.

V.3 Comment:

Several commenters noted the abundance of wildlife that crosses the property and stated that some pathogens in septage adhering to the elk or deer migrating through the site may be transmitted to livestock. The commenters believe that the relocation of septage contaminated terrestrial wildlife species roaming adjacent lands may lead to transmission of diseases that may endanger the livestock or human population on lands surrounding the site. Additionally, some commenters expressed a concern regarding pathogens carried by septage-contaminated domestic dogs wandering through the site and onto adjacent properties. Two commenters expressed concern regarding the scavenging of grease trap waste by these dogs.

V.3 Response:

Comment noted. Grazing animals tend to avoid septage land application sites for multiple reasons, primarily the presence of human scent and human activity. Further, all non-putrescible litter must be removed, and wastes incorporated within six hours of application. Removal of litter from the site will remove any attraction that domestic animals might have to the waste.

V.4 Comment

Montana is a “fence out” state. Please explain the meaning of that term for this project.

V.4 Response:

The term “fence out” means to keep someone or an animal out with a fence or barrier. The applicant has the option to fence the disposal area if livestock movement becomes an issue at the site.

VI. Environmental Assessment**VI.1 Comment:**

One commenter thought that the county might comment first before approving this site. The commenter goes on to ask if the local county commission influences the approval or denial? If not, do they have an advisory or regulatory role? Could there be an extension on public comment to allow for the County Board of Health to hear citizens and invite DEQ to explain the EA?

VI.1 Response:

Comment noted. The local County Health Officer or their designated representative, typically the County Sanitarian, approves or denies a land application site based upon local site conditions and/or local zoning restrictions. The Ravalli County Sanitarian approved the New Disposal Site Application Form on May 9, 2016. The approved application sent to DEQ was certified by the County Sanitarian’s signature that the land application site on the Bugli property met local and State regulations.

There is presently no mechanism in State law that requires the approval or denial of a site by a local county commission. However, the EA was sent to the Ravalli County commissioner’s office for review and comment during the public comment period. As a result of requests from interested persons, DEQ extended the comment period to January 6, 2017.

During the Ravalli County Board of Health (RCBOH) meeting on January 11, 2017, EPP agreed to the following conditions:

1. *Septage will not be applied to frozen ground under any circumstance.*
2. *EPP will be the only company allowed to use the land application site.*
3. *The Ravalli County Environmental Health Department may inspect the land application site upon receiving a signed complaint, or at the request of DEQ.*

Finally, land application will be limited to only those areas approved by DEQ. EPP will mark the approved boundaries of the land application site with either flags, stakes, or rock cairns to ensure waste is applied only within the approved areas, and land application sites are rotated annually. The site will not be used until the boundaries have been placed and approved by either DEQ or the Ravalli County Sanitarian.

VI.2 Comment:

DEQ's limited resources prevented the permit writer from attending a public hearing we were invited to even though landowners had been in contact requesting that a DEQ representative attend to answer their concerns.

VI.2 Response:

Comment noted. DEQ did receive a request to attend the January 11, 2017, Board of Health meeting where issues related to Eckert's Patriot Pumpers proposal were on the agenda. DEQ staff had a prior commitment to attend a meeting the evening of January 10, 2017, in Billings. Timing and road conditions on January 11th prevented staff from driving to the Board of Health meeting the next day. However, DEQ staff did speak to the board chairman prior to the meeting and provided information on the approval process, details of DEQ's review, and potential solutions to ease neighboring concerns. Based upon the outcome of the January 11th meeting, it appears that the applicant agreed to the suggested solutions.

VI.3 Comment:

One commenter noted that other affected residents located nearby the site did not receive a copy of the EA, therefore the comment period should be extended or site should be denied.

VI.3 Response:

Comment noted. The Montana Environmental Policy Act (MEPA) allows state agencies to establish their own policies for disseminating such documents. The EA was sent to all property owners with a contiguous boundary to the Bugli property. Copies were also sent to other agencies for comment including the Ravalli County Sanitarian, Ravalli County Health Officer, Ravalli County Commissioners, Montana Department of Fish, Wildlife & Parks, and the Environmental Quality Council. Reports were obtained from the Montana Natural Heritage Program website and the Montana Historical Society State Historic Preservation Office. The Ravalli County authorities also distributed the EA to interested parties. The County Board of Health held a meeting on January 11, 2017, attended by some commenters, to discuss the proposed EPP site license. Every effort was made to notify and involve affected parties and, although some people missed the public notice and others were not notified directly, DEQ believes that the amount of publicity and scrutiny this license application has received demonstrates that our goal for a high level of public engagement was accomplished.

VI.4 Comment:

Several commenters stated that the area was not developed in anticipation of the proposed land application activity and would thus impact users of the area. In addition, income and property values will be drastically devalued if the site is approved.

VI.4 Response:

Comment noted. At the present time, Montana has over 148 active land application sites, four of which are within Ravalli County. Many of the application sites in the state are in close proximity to residential areas. When sites are managed in accordance with the regulations there are no violations found during site inspections performed by local county sanitarians or DEQ inspectors. Complaints made to DEQ must be validated with an inspection. During the inspection, if violations are found and not corrected, DEQ may take enforcement action that could include monetary penalties and/or revocation of the site approval.

DEQ is not aware of any drastic reduction in income or property values near land application sites anywhere in the State of Montana. Pumpings from septic tanks are being used as a supplement to commercial fertilizers throughout the United States. The pumpings being added to this property are being used to supplement the need for commercial fertilizers – a common practice at many farms and ranches in Montana. Income and property values adjacent to farms and ranches have not been affected by this properly managed practice.

VI.5 Comment:

Several commenters felt that the EA did not adequately address the potential health hazards and failed to recognize that even a negligible risk of disease or contamination was unacceptable. They are especially concerned about unknown contaminants or pathogens in raw septage from porta potties. One felt that the EA was even misleading, inaccurate, and not thorough regarding potential health impacts versus benefits or operations. Another said that DEQ staff stated several times that we do not have enough resources to do a thorough EA.

VI.5 Response:

Comment noted. Please see response to comment I.4. The U.S. Environmental Protection Agency (EPA) has established regulations for the management of sewage sludge (biosolids) and domestic septage (40 CFR Part 503). During the development of these regulations, research and testing was conducted to ensure land application of septage would not cause public health or environmental issues. The State of Montana has established regulations for the land application of septage (Title 75, Chapter 10, Part 12 MCA and ARM Title 17, Chapter 50, Subchapter 8). The regulations in 40 CFR Part 503 were used during the development of the state laws and rules regulating septage land application. As with the EPA regulations, the required management practices for land application in Montana were developed to protect public health and the environment from the reasonably anticipated adverse effects of the pollutants in septage. DEQ maintains sufficient resources to complete tasks in a thorough manner. DEQ received the new land application site request from EPP in June 2016. The application was reviewed and DEQ staff performed a complete review of published geologic maps, soil information, and local hydrogeologic characteristics. On July 12, 2016, DEQ staff performed a field investigation at the proposed location to verify site conditions. The applicant dug three test pits with a backhoe. The test pits confirmed that published information accurately reflected the onsite subsurface conditions. DEQ inspected onsite areas of the property where slopes were between 3 to 6% that

would be acceptable for land application; areas exceeding the 6% slope would not be approved for use. DEQ's EA was thorough and based upon published information, the field investigation, and compliance with the regulations for septage land application. DEQ determined that operation of the land application site would not result in significant impacts. The site meets the regulatory requirements for septage land application.

VI.6 Comment:

One commenter felt that an Environmental Impact Study should be prepared for the site based on the potential for release of toxic contaminated wastes.

VI.6 Response:

Comment noted. DEQ determined that the development of an Environmental Impact Statement is not necessary for this type of activity, because the EA determined that operation of the land application site would not result in significant impacts. The land application of septage is an accepted and proven method used to manage such wastes. When reviewing and regulating any land application site, DEQ uses the criteria set forth in the regulations. Each site is reviewed individually, regardless of who will be using the site, to determine the significance of impacts. Annual application rates for septage type waste are required for each site and depend upon the crop or vegetation grown on the site. The maximum application rate ensures the amount of nitrogen being applied will meet the uptake requirement of the crop or vegetation at the site. See also the response to comment I.4.

VI.7 Comment:

Several commenters believe that the Department should require the septic pumper business to monitor groundwater wells to detect the migration of pollutants from the land application sites.

VI.7 Response:

Comment noted. Adherence to the procedures for land application at rates that do not exceed the maximum volume should prevent the migration of pollutants from land application sites. Based on the available data from wells adjacent to the Bugli property, the groundwater beneath the Bugli property is greater than 20 feet deep within shaly mudstones. The rate of septage land application (28,846 gallons per acre per year) is equivalent to approximately 1.06 inches of precipitation annually. Any vertical flow resulting from the land application activities through the unsaturated subsurface and into the water table through these cemented impermeable shaly mudstones is highly unlikely. Therefore, DEQ believes that groundwater testing is not necessary.

VI.8 Comment:

One commenter believes that while other alternatives are available to the pumper business, this proposal appears to utilize an obsolete approach of dumping raw sewage on the ground. Another asks about the indirect impact of options for septic pumper operations on their costs.

VI.8 Response:

Comment noted. As stated earlier, septage is not raw sewage. While septic tank pumper businesses do have several options for disposal, those options depend on what is available in the local area. The available options include the transport to a wastewater treatment plant that can accept it, a dewatering facility, a landfill, or a land application site. The wastewater treatment facilities in Victor and Stevensville do not currently accept these wastes because their capacity is limited and the facilities would have to be retrofitted to ensure the acceptance of such wastes does not impact the current permitted operations. Such a retrofit would be expensive and would be passed on to the respective communities in the form of a mill levy increase – an unlikely occurrence at the present time. The nearest facility that does accept septage is located in Missoula. However, the City of Missoula limits the amount of septic tank pumpings it takes per day. In addition, transport to this facility would result in additional environmental impacts and increased costs that would be passed on to the customer. Although the dewatered solids from a septic tank may be disposed of at a landfill, the liquids still require treatment. There is also no facility in the vicinity that accepts such solids.

Another option is to have new residential developments, and older ones with aging septic systems, hook up to centralized wastewater treatment system. However, developers and homeowners commonly do not want to take on the extra expense associated with such connections. Since neither the Stevensville nor Victor wastewater treatment facilities accept septage, land application appears to be the only option available for the many residents in Ravalli County.

VI.9 Comment:

One commenter asked what the duration of DEQ's approval is for such a site.

VI.9 Response:

Comment noted. A septic tank pumper business is required to renew their license on an annual basis. The license is from January 1 to December 31 of the current year. DEQ's approval for use of the site by the applicant remains effective as long as the licensee maintains compliance with the regulations governing the operation and management of a land application site.

VI.10 Comment:

Several commenters requested the details of the Operation & Maintenance Plan.

VI.10 Response:

Comment noted. The applicant provided an Operation & Maintenance Plan that identifies the site access controls, vector attraction, and pathogen reduction methods, grazing/crop harvesting restrictions, and equipment to be used at the site. In this case, EPP has agreed to till within six hours of any septage land application and will not apply to frozen ground. Their trucks will spread the septage using a splash plate to disperse it from the tank onto the ground. Existing seedbank in the soil will promote native grass development and utilize the available nitrogen amendments provided. The site is monitored by reviewing disposal records and through the performance of site inspections. Site inspections can be conducted by DEQ and the local health officer, or the local health officer's designated representative. The inspections that are

conducted are typically unannounced and the number of site inspections can vary from once a year to several times a year.

VI.11 Comment:

One commenter asked why the current cover crop on the Bugli property of native grass would need the addition of septage for growth and questions the agricultural benefit?

VI.11 Response:

Comment noted. The landowner will use the septage to supplement existing soil conditions by adding organic matter to enhance the sparse production of the native grasses existing on site.

VI.12 Comment:

Two commenters stated that the existence of viral contaminants and other biohazards in human waste and/or septic tanks has totally been ignored by both EPA and the EA as prepared, and cite two studies establishing known problems arising in land application of the sludge from a treatment facility.

VI.12 Response:

Comment noted. Domestic septage is not raw sewage nor is it sewage sludge. The sources of testing quoted in the comments are results from samples of concentrated sludge obtained from high volume wastewater treatment facilities. Domestic septage undergoes treatment by the bacteria that live in the septic tank - a process that is similar to biosolids digestion at a waste water treatment facility but obviously at a much smaller scale. The land application of domestic septage is covered by specific state regulations. When septage is land applied in accordance with the established regulations, there are no anticipated adverse environmental impacts. The federal regulations were established using standards for land application based upon the reasonably anticipated adverse effects of such application. During the development of these regulations, research and testing were conducted to ensure land application would not create public health or environmental issues, including viral and bio-hazards. DEQ used these same regulations in the development of state specific rules and laws for septage land application.

VII. Site Operation and Management

VII.1 Comment:

Several commenters worry that any benefits require that the landowner and/or pumper business remain diligent with site operations to ensure the benefits are realized rather than problems from improper site management. How can they be sure?

VII.1 Response:

Comment noted. DEQ agrees that diligence is required on the part of the licensed septic pumper businesses to ensure the land application sites are properly managed so that the benefits of the application will be realized. The licensed septic pumper businesses know that if they fail to operate and manage the approved land application sites in accordance with the laws and rules, DEQ may take enforcement action. Land application of such wastes is allowed because it provides a beneficial re-use of a waste product as long as the sites are operated in accordance

with the regulations. However, when site operations fail to comply with the regulations and violations are noted, corrective action is required. If the licensee fails to correct the violations, DEQ may seek further enforcement action, including license revocation, revocation of site approval, assessment of penalties, or judicial action.

VII.2 Comment:

Several commenters worry that because pumpers work alone and self-report their activities, there is very little direct governmental oversight. One commenter expects DEQ to restrict activities at the Bugli site to a single pumper.

VII.2 Response:

Comment noted. EPP is the only pumper business that submitted a request for use of this site. The pumper business does not have the authority to allow other licensed businesses to use this site.

Although the pumper businesses are self-reporting, DEQ does perform periodic, unannounced site inspections. By law, each licensed pumper business must maintain disposal records. These records are reviewed on a semi-annual basis, and any inconsistent entries are flagged for follow-up by DEQ staff. The follow-up may include a phone call, a request to the local county authority to perform an inspection, or an inspection by DEQ staff. In addition, the public may file a complaint with DEQ's Enforcement Division concerning the site operation and management. All complaints are investigated by DEQ staff.

VII.3 Comment:

Several commenters expressed concerns about the application of the wastes on frozen ground and the potential for run-off to the adjacent coulees and the irrigation canal.

VII.3 Response:

Comment noted. Based on an agreement with the Ravalli County Board of Health, EPP will not land apply on frozen ground. Septage will not be applied to areas that have a slope greater than 6%. The 150 foot setback from state surface water is in place for land application of septage type waste at Bugli's site. In addition, operations will be restricted to the existing plowed field that meets the slope and setback requirements.

VII.4 Comment:

Some commenters expressed concerns about the presence of non-putrescible litter in the waste that is applied and the impact to the surrounding area if litter is not managed as required, especially during windy periods. What recourse do the local residents have if litter becomes an issue?

VII.4 Response:

Comment noted. The regulations require the removal of litter from a land application site within six hours after application. When pumpings are first applied, the non-putrescible litter is saturated with liquids and will not be picked up by the wind and will not migrate into the creek and float to the river. If litter becomes a problem at land application sites, it would be a violation

that requires corrective action. In such a case, DEQ could require the pumper to screen the waste prior to application so that non-putrescible litter is removed prior to land application.

VII.5 Comment:

Several commenters expressed concerns about the potential for strong odors moving offsite from the land application site.

VII.5 Response:

Comment noted. With proper site management, odors will be kept to a minimum. While there may be an odor while wastes are being land applied, these odors are typically confined to the immediate vicinity of the application area. DEQ staff has performed numerous inspections of land application sites when wastes were actively being applied and odors were only noted during the application and were only detectable within 10-20 feet of the application area. Winds in the area will disperse odors resulting from land application activities quickly. Although DEQ does not regulate odors, the presence of odors outside the land application area could mean that wastes have been over-applied, or not incorporated as required. Either DEQ and/or the local county sanitarian would respond to odor complaints to determine whether or not wastes have been properly managed on the site.

VII.6 Comment:

Several commenters stated that one could not be sure of the pumper's maintenance of the 150-foot setbacks from coulees running through the property.

VII.6 Response:

Comment noted. EPP will mark the boundaries of the approved application areas prior to the commencement of any land application activities at the site. During routine inspections DEQ may recheck the locations of the markers. Unauthorized movement of these markers would be grounds for the issuance of a violation to the pumper. The issuance of a violation, in the event the markers are moved, serves as a sufficient deterrent to the pumper for moving the markers.

VIII. Conclusions and Recommendations

DEQ believes that it has thoroughly reviewed the permit application and supplemental materials for the land application of septage and grease trap waste on the Bugli Property. DEQ has also reviewed and analyzed all written comments provided during the public comment period, as documented herein. Based on the review of all the materials and comments submitted, DEQ believes that approval of the land application site is protective of human health and the environment.